



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
[www.uspto.gov](http://www.uspto.gov)

*Jhm*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,288	09/19/2001	Joo-Hyong Lee	LGS/S-0030A	9373

7590                  06/19/2002

FLESHNER & KIM, LLP  
P.O. Box 221200  
Chantilly, VA 20153-1200

[REDACTED] EXAMINER

DIAZ, JOSE R

ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 06/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Applicant No.	Applicant(s)
	09/955,288	LEE, JOO-HYONG
Examiner	Art Unit	
José R. Diaz	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 19 September 2001.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 19 September 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) All b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. 09/290,891.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).\* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                     | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                 | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Drawings*

➤ The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

- Page 16, line 3: the reference sign "52"
- Page 16, line 11: the reference sign "101"

Correction is required.

### *Specification*

➤ The disclosure is objected to because of the following informalities:

- Page 17, line 8: the reference sign "47" should be changed to --57--

Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

➤ The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(e) the invention was described in—

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

➤ Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Farrenkopf et al. (US Patent No. 5,899,714).

Regarding claim 1, Farrenkopf et al. teach a semiconductor device (see cols. 1-54) comprising: a semiconductor substrate (20) having a first conductivity type (See Figure 2.3); a first well (38D) having a second conductivity type in the semiconductor substrate (See Figure 2.3); a second well (40 C) having the first conductivity type in the semiconductor substrate (See Figure 2.3); first and second MOS transistor regions (ISO, N-CHAN, and ISO, P-CHAN) and first and second contact regions (60B and 62B) (See Figure 2.3); a heavily doped region of buried layer (34D) having the second conductivity type at a portion spaced corresponding to the first contact region in the first well (See Figure 2.3) and a heavily doped region of buried layer (36C) having the first conductivity type at a portion spaced corresponding to the second contact region in the second well (See Figure 2.3).

Regarding claim 2, Farrenkopf et al. teach that the heavily doped regions of buried layers having first and second conductivity type are spaced at a distance of about .25 to 1.0  $\mu\text{m}$  beneath the major surface of the semiconductor substrate (see Figures 2.3 and 10.1-10.6, 13, 16 and 25).

Regarding claim 3, Farrenkopf et al. teach that the junction depth of the first and second wells is 1.5-2.0  $\mu\text{m}$  (See Figure 2.3 and 10.1-10.6, 13, 16 and 25).

Regarding claim 4, Farrenkopf et al. teach that the concentration of the heavily doped region of buried layer (36C) having the first conductivity type (P) is higher than

that of the second well (P-) and lower than that of the second contact region (P+) (See Figure 2.3 and 10.1-10.6, 13, 16 and 25).

Regarding claim 5, Farrenkopf et al. teach that the concentration of the heavily doped region of buried layer (34D) having the second conductivity type (N+) is higher than that of the second well (N-) and lower than that of the second contact region (N+) (See Figures 2.3 and 10.1-10.6, 13, 16 and 25).

#### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (703) 308-6078. The examiner can normally be reached on 9:00 - 5:00 Monday, Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie C. Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 746-3891 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



EDDIE LEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

JRD  
June 16, 2002